

## § 221.14

## 49 CFR Ch. II (10–1–03 Edition)

(d) The centroid of the marking device must be located at a minimum of 48 inches above the top of the rail.

[51 FR 25185, July 10, 1986]

### § 221.14 Marking devices.

(a) As prescribed in § 221.13, passenger, commuter and freight trains shall be equipped with at least one marking device, which has been approved by the Federal Railroad Administrator in accordance with the procedures included in appendix A of this part, and which has the following characteristics:

(1) An intensity of not less than 100 candela nor more than 1000 candela (or an effective intensity of not less than 100 candela nor more than 1000 candela for flashing lights) as measured at the center of the beam width;

(2) A horizontal beam with a minimum arc width of fifteen (15) degrees each side of the vertical center line, and a vertical beam with a minimum arc width of five (5) degrees each side of the horizontal center line as defined in terms of the 50 candela intensity points;

(3) A color defined by the red-orange-amber color range; and

(4) If a flashing light is used, a flash rate of not less than once every 1.3 seconds nor more than once every .7 seconds.

(b) Marking devices used on passenger and commuter trains in compliance with paragraph (a) of this section shall be lighted under the conditions prescribed in § 221.13 (b) and (c).

(c) When a locomotive is operated singly, or at the rear of a train, highly visible marking devices may be provided by the use of:

(1) At least one marking device that complies with paragraph (a) of this section; or

(2) At least one illuminated red or amber classification light on the rear of the locomotive, provided it complies with paragraph (a) of this section; or

(3) The rear headlight of the locomotive illuminated on low beam.

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### § 221.15 Marking device inspection.

(a) Each marking device displayed in compliance with this part shall be ex-

amined at each crew change point to assure that the device is in proper operating condition.

(b) This examination shall be accomplished either by visually observing that the device is functioning as required or that the device will function when required by either (1) repositioning the activation switch or (2) covering the photoelectric cell.

(c) This examination shall be conducted either by the train crew or some other qualified person, *Provided that*, if a non-train crewmember performs the examination, that person shall communicate his or her findings to the locomotive engineer of the new train crew.

(d) When equipped with a radio telemetry capability, a marker displayed in accordance with this part may be examined by observing the readout information displayed in the cab of the controlling locomotive demonstrating that the light is functioning as required in lieu of conducting a visual observation.

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### § 221.16 Inspection procedure.

(a) Prior to operating the activation switch or covering the photoelectric cell when conducting this test, a non-train crew person shall determine that he is being protected against the unexpected movement of the train either under the procedures established in part 218 of this chapter or under the provisions of paragraph (b) of this section.

(b) In order to establish the alternative means of protection under this section, (1) the train to be inspected shall be standing on a main track; (2) the inspection task shall be limited to ascertaining that the marker is in proper operating condition; and (3) prior to performing the inspection procedure, the inspector shall personally contact the locomotive engineer or hostler and be advised by that person that they are occupying the cab of the controlling locomotive and that the train is and will remain secure against movement until the inspection has been completed.

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